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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,395	10/12/2001	Austin H. Lesea	X-742 US	2798

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EXAMINER	
CONNOLLY, MARK A	

ART UNIT	PAPER NUMBER
2115	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/976,395	LESEA ET AL.	
	Examiner	Art Unit	
	Mark Connolly	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-20 and 24-27* is/are rejected.

7)☒ Claim(s) *9 and 21-23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-27 have been presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 recites the limitation "the analog demultiplexer." There is insufficient antecedent basis for this limitation in the claim. For examination purposes, the above statement has been interpreted as "an analog demultiplexer."

4. Claim 13 recites the limitation "the at least one critical circuit." There is insufficient antecedent basis for this limitation in the claim. For examination purposes, the above statement has been interpreted as "at least one critical circuit."

5. Claim 21 recites the limitation "the demultiplexer." There is insufficient antecedent basis for this limitation in the claim. For examination purposes, the above statement has been interpreted as "a demultiplexer."

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3, 13-15, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patino et al [Patino] US Pat No 5184059 in view of Fernandez et al [Fernandez] US Pat No 5637413.

8. Referring to claim 1, Patino teaches the invention substantially including:

a. a battery voltage pin [22 and 26 fig. 1].

b. a battery controller connected to the battery voltage pin [38 fig. 1].

c. a memory for storing a charging algorithm and a charging methodology associated with a battery connectable to the battery voltage pin [col. 3 lines 10-25 and col. 4 lines 32-40].

Although Patino teaches the battery voltage pin, controller and the memory above, Patino does not explicitly teach a critical circuit selectively connected to the battery voltage pin. Fernandez explicitly teaches a critical circuit selectively connected to a battery voltage pin [col. 1 lines 60-65]. The charger is interpreted as a critical circuit since it provides the critical function of charging the battery. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teachings of Fernandez into the Patino system because it would allow the Patino system to protect batteries from over-voltage and thus protecting them from damage resulting from over-voltage.

9. Referring to claim 2, the battery controller in the Patino-Fernandez system controls the battery charger because the charging algorithm defines how the charger should charge the battery and the charging algorithms are stored within the battery controller.

10. Referring to claim 3, Fernandez teaches that the voltage detector is connected to the output of the charger, which is interpreted as a voltage source pin, and that the voltage detector selectively disconnects the battery voltage pin from the critical circuit [figure and col. 1 lines 61-65].

11. Referring to claim 13, this is rejected on the on the same basis as set forth hereinabove. Patino and Fernandez teach the system and therefore teach the method performed by the system. In addition, Patino explicitly teaches that the memory can comprise of "any appropriate memory source known in the art" [col. 4 lines 32-36]. It is therefore interpreted that the memory source could comprise a battery backed volatile memory because not only is it well known in the art, but it will retain its contents as required in the Patino system.

12. Referring to claims 14 and 15, these are rejected on the same basis as set forth hereinabove. Patino and Fernandez teach the system and therefore teach the method performed by the system.

13. Referring to claim 25 and 27, these are rejected on the same basis as set forth hereinabove. Patino and Fernandez teach the system and therefore teach the method performed by the system.

14. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patino and Fernandez as applied to claims 1-3, 13-15, 25 and 27 above, and further in view of Sahai et al [Sahai] US Pat No 5698971.

15. Referring to claim 4, although Patino and Fernandez teach the battery controller above, it is not explicitly taught that the battery controller further includes end of life circuitry. Sahai explicitly teaches a need for end of life circuitry [abstract]. It would have been obvious to include the end of life circuitry taught by Sahai into the battery controller taught in the Patino-Fernandez system because it would allow an end of life condition associated with a battery to be recognized in order to allow a user to replace the old battery with a new one.

16. Referring to claim 16, this is rejected on the same basis as set forth hereinabove. Patino, Fernandez and Sahai teach the system and therefore teach the method performed by the system.

17. Claims 5, 17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patino and Fernandez as applied to claims 1-3, 13-15, 25 and 27 above, and further in view of Schwartz et al [Schwartz] US Pat No 6157167.

18. Referring to claim 5, although Patino and Fernandez teach that the battery controller comprises a memory which stores charging algorithms for many different types of batteries, it I is not explicitly taught that the battery controller is programmable. Schwartz explicitly teaches updating charging algorithms [abstract]. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the battery controller programmable because it would allow the controller to update its charging algorithms to accommodate any rechargeable battery as taught by Schwartz.

19. Referring to claim 17, this is rejected on the same basis as set forth hereinabove. Patino, Fernandez and Schwartz teach the system and therefore teach the method performed by the system.

20. Referring to claim 26, this is rejected on the same basis as set forth hereinabove. Patino, Fernandez and Schwartz teach the system and therefore teach the method performed by the system.

21. Claims 6-8, 10 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patino and Fernandez as applied to claims 1-3, 13-15, 25 and 27 above, and further in view of Townsley et al [Townsley] US Pat No 5666006.

22. Referring to claim 6, although the Patino-Fernandez system teaches a first battery voltage pin and the battery controller and critical circuit, Patino and Fernandez and do not explicitly teach a second battery voltage pin or that the battery controller and critical circuit are selectively connected to one of the first and second battery voltage pins. Townsley explicitly teaches a system which comprise two battery voltage pins [fig. 4]. In addition Townsley further teaches charging batteries with different technologies simultaneously via a sequential (staggered) charging scheme [col. 3 line 64-col. 4 line 9 and col. 5 lines 18-23]. It would have been obvious to one of ordinary skill in the art to include the teachings of Townsley into the Patino-Fernandez system because it would enable the system to charge multiple batteries with different technologies. Because the Patino-Fernandez system comprises only a single charger (critical circuit included in the battery controller), it is obvious that the Patino-Fernandez-Townsley system would selectively connect the battery controller and critical circuit to only the battery currently being charged in order to prevent any damage to the other battery due to an non-compatible charging algorithm.

23. Referring to claims 7 and 8, because the Patino-Fernandez-Townsley system selectively connects the battery controller and critical circuit to one of the battery voltage pins, it would have been obvious to one of ordinary skill in the art to make this connection through the use of either a multiplexer (MUX) or demultiplexer (DEMUX) because it is well known that MUX's and DEMUX's establish a connection between a common port and a plurality of other ports

wherein the battery controller and critical circuit would be connected to the common port and the first and second battery voltage pins would be connected to the plurality of other ports.

24. Referring to claim 10, Fernandez teaches that the voltage detector is connected to the output of the charger, which is interpreted as a voltage source pin, and that the voltage detector selectively disconnects the battery voltage pin from the critical circuit [figure and col. 1 lines 61-65].

25. Referring to claim 18, although the Patino-Fernandez-Townsley system teaches the first and second battery voltage pins and that the battery controller and critical circuit are selectively connected to the voltage pins and a memory for storing charging algorithms, it is not explicitly taught that a first algorithm is for charging a first battery connected to a first battery voltage pin and a second algorithm is for charging a second battery connected to a second battery voltage pin. As stated above, Townsley teaches charging batteries with different technologies simultaneously via a sequential (staggered) charging scheme [col. 3 line 64-col. 4 line 9 and col. 5 lines 18-23]. Because the charging scheme is staggered and the batteries can be of different technology, the charging algorithm for the first battery would not be the same for the second battery. In summary, the Patino-Fernandez-Townsley system executes a first charging algorithm which is compatible with a first battery connected to the first battery voltage pin then switch over and execute a second charging algorithm which is compatible with a second battery connected to a second battery voltage pin.

26. Referring to claims 19 and 20, these are rejected on the same basis as set forth hereinabove.

27. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patino, Fernandez and Townsley as applied to claims 1-3, 6-8, 10, 13-15, 18-20, 25 and 27 above, and further in view of Sahai et al [Sahai] US Pat No 5698971.

28. Referring to claim 11, although Patino and Fernandez teach the battery controller above, it is not explicitly taught that the battery controller further includes end of life circuitry. Sahai explicitly teaches a need for end of life circuitry [abstract]. It would have been obvious to include the end of life circuitry taught by Sahai into the battery controller taught in the Patino-Fernandez-Townsley system because it would allow an end of life condition associated with a battery to be recognized in order to allow a user to replace the old battery with a new one.

29. Claims 12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patino, Fernandez and Townsley as applied to claims 1-3, 6-8, 10, 13-15, 18-20, 25 and 27 above, and further in view of Schwartz et al [Schwartz] US Pat No 6157167.

30. Referring to claim 12, although Patino, Fernandez and Townsley teach that the battery controller comprises a memory which stores charging algorithms for many different types of batteries, it I is not explicitly taught that the battery controller is programmable. Schwartz explicitly teaches updating charging algorithms [abstract]. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the battery controller programmable because it would allow the controller to update its charging algorithms to accommodate any rechargeable battery as taught by Schwartz.

31. Referring to claim 24, this is rejected on the same basis as set forth hereinabove.

Allowable Subject Matter

32. Claims 9 and 21-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
November 23, 2004

THOMAS LEE
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